Specimens examined.—Vicinity of Silver Lake, Los Angeles County, Calif., May 28, 1940, R. G. Woglum (comm., H. S. Fawcett). Uplands, San Bernardino County, Calif., about June 1942, H. Cavers (comm. H. S. Fawcett). Mar Vista, Los Angeles County, Calif., March 8, 1943, A. Stein (comm. H. S. Fawcett).

Asheville, N. C., October 18, 1946 (Coll. and comm. C. Westcott) (USM 90270, IB 5101, Type).

São Paulo, Brazil, May 3, 1943, A. A. Bitancourt 972. Isolations were made from two of these specimens, that collected at Mar Vista and that São Paulo by Bitancourt.

LITERATURE CITED

(1) FIELDS, W. S. *Summary of the more important plant diseases taken in connection with the insect and plant disease survey in the general vicinity of ports of entry from June 1943 to December 31, 1944; January 1944 to June 30, 1944; July 1944 to June 30, 1944: January 1945 to June 30, 1945* (U. S. Bur. Ent. and Plant Quar.). U. S. Dept. Agr. Plant Dist. Reptr. **28**: 274–275; 969–970. 1944; **29**: 181–183; 693–697. 1945. Mimeographed.

(2) BITANCOURT, A. A., and JENKINS, A. E. *Scab of English ivy caused by* Sphaceloma. (Abstr.) Phytopathology **33**: 1109. 1933.

(3) GRODSINSKY, L., and JENKINS, A. E. Sphaceloma murrayae *en diversas especies de* Salix. Rev. Argentina Agr. **10**: 55–58, illus. 1943.

(4) JENKINS, A. E. *Additional studies of species of* Elsinoë *and* Sphaceloma. Mycologia **25**: 213–220, illus. 1933.

(5) ———. *Two new records of* Sphaceloma *diseases in the United States.* Phytopathology **34**: 981–983, illus. 1944.

(6) JENKINS, A. E., and BITANCOURT, A. A. Elsinoë *and* Sphaceloma *diseases in the United States, Puerto Rico, and Guam.* (Abstr.) Phytopathology **30**: 14. 1940.

(7) JENKINS, A. E., FORSELL, M. J., and BOYLE, L. W. Elsinoë piri *discovered on apple and pear in western Washington and Oregon.* (Abstr.) Phytopathology **35**: 486. 1945.

(8) JENKINS, A. E , FORSELL, M. J., and BOYLE, L. W. *Identity and known distribution of* Elsinoë piri *in Washington and Oregon.* Phytopathology **36**: 458–461, illus. 1946.

(9) JENKINS, A. E., and GRODSINSKY, L. Sphaceloma *on willow in New Zealand.* Trans. Brit. Mycol. Soc. **26**: 1–3, illus. 1943.

(10) LIMBER, D. P., POLLACK, F. G., and JENKINS, A. E. Elsinoë *discovered on* Sesbania *and* Cinnamomum *in the United States.* Mycologia **38**: 463–472, illus. 1946.

(11) SMITH, R. E. *Diseases of fruits and nuts.* Univ. California. Agr. Ext. Serv. Circ. 120, 168 pp., illus. 1941.

(12) ZELLER, M., and DEREMIAH, J. W. *An anthracnose of* Ledum *caused by a species of* Elsinoë. Phytopathology **21**: 965–972, illus. 1931.

ENTOMOLOGY.—*New species of North and Central American mites of the family Penthaleidae (Acarina).*[1] EDWARD W. BAKER, *U. S. Bureau of Entomology and Plant Quarantine.* (Communicated by ALAN STONE.)

The family Penthaleidae Oudemans, 1931, is composed of four genera, two of which contain species of economic importance.

Essig[2] and Campbell[3] report that *Penthaleus major* (Dugès)[4] is a pest of peas in California and that it feeds on clover, oats, wild mustard, and lupine. Essig has also observed it attacking a springtail, *Achorutes armatus* Nicolet, which was swarming on the surface of ditch water. It has caused serious damage to wheat in certain areas in Texas and has been found on wheat and barley in Arizona and Oklahoma. In Australia this species is a serious pest of clover and vegetable crops,[5] and Andre[6] records it as injurious to peas and lettuce as well as other vegetables in France.

Halotydeus destructor (Tucker) causes extensive damage to vegetable and leguminous crops in Australia and South

[1] Received October 22, 1946.

[2] ESSIG, E. O. California Dept. Agr. Monthly Bull. **28** (7, 8, 9): 507–508, fig. 1. 1939.

[3] CAMPBELL, R. E. California Dept. Agr. Monthly Bull. **30** (3): 312–314. 1941.

[4] *Notophallus dorsalis* Banks, 1902 (Can. Ent. **34**: 172), and *N. viridis* Banks, 1917 (Ent. News **28**: 193), are here considered as synonyms of *Penthaleus major* (Dugès) (new synonymy).

[5] SWAN, D. C. Journ. Agr. Res. South Australia **38**: 365–367. 1934.

[6] ANDRÉ, MARC. Bull. Paris Mus. Hist. Nat. (2) **4**: 284–291. 1932.

Africa,[7,8,9,10] but as far as is known it is not present in North America. A mite identified as *Halotydeus egregius* (Berlese) has been taken from peach-orchard soil in Texas, but as yet this species has not proved to be of economic importance.

The genera *Stereotydeus* and *Penthalodes* are represented in the United States, Mexico, and Panama by the new species described in this paper. These do not appear to be harmful and possibly they are predaceous, but since they belong to a family that contains species of economic importance they are described.

Penthalodes mytilaspidis Riley, as described and figured by McGregor,[11] appears to belong to another family, perhaps the Anystidae.

KEY TO THE GENERA

1. Anal opening not ventral.....2
   Anal opening ventral.....3
2. Anal opening dorsal...*Penthaleus* Koch, 1835
   Anal opening posterior.....
   .....*Halotydeus* Berlese, 1891
3. No V-shaped indentation on dorsum of body
   .....*Stereotydeus* Berlese & Leonardi, 1901
   A V-shaped indentation on dorsum of body..
   .....*Penthalodes* Murray, 1877

Stereotydeus mexicanus, n. sp.

FIGS. 1, 2

Female.—Skin pattern reticulate, forming independent pentagons separated from one another by about their own width on dorsal and lateral surface of mite. On venter of mite between coxae pentagons lacking, only tubercles without pattern present. Palpus strong, segment II especially broad; segment I, 17μ long; II, 67μ long with two dorsal pilose setae; III, 18μ long with three pilose setae; IV, 23μ long with apparently seven small distal setae, one of which appears to be simple and the others pilose. Shield over rostrum trilobed, center lobe pointed, with same pattern as body; median anterior tubercle with a pair of short pilose setae. A pair of pilose sensory setae about 66μ long; other dorsal body setae about 25μ long, pilose. A pair of medium-sized eyes behind lateral propodosomal dorsal setae. Six pairs of long, pilose genital setae, the fourth from the anterior edge of the plate set laterad from the others. Leg setae short, pilose; tarsus I with three sensory organs arranged in a single row. Body rounded posteriorly. Length of body 380μ; including rostral shield 453μ; width about 266μ.

Male.—Similar to female.

The type female. U.S.N.M. no. 1697, was collected at Patzcuaro, Michoacán, Mexico, September 1, 1941, by F. Bonet; a paratype, to be deposited in the collection of F. Bonet, Mexico, D. F., was collected in moss, Orizaba, Veracruz, Mexico, February 21, 1943, by F. Bonet. Other collection records are as follows: On orchid plant, Mexico at Brownsville, Tex., September 27, 1942, by Williamson; in moss, Mount Popocatapetl, Mexico, at about 9,000 feet elevation, December 29, 1942, by E. W. Baker; in moss, Laguna de Zempoala, Morelos, Mexico, January 31, 1943, by E. W. Baker; in moss, Desierto de los Leones, México, Mexico, November 19, 1943, by C. C. Plummer. The following Mexican collections were made by F. Bonet: In moss, Salazar, D. F., September 30, 1942; in mushrooms, Desierto de los Leones, Mexico, July 14, 1941; Nevada de Toluca, Mexico, April 27, 1941; Gruta del Palmito, Bustamante, Nuevo León, July 17, 1942; wood, Orizaba, Veracruz, January 14, 1941; in moss, Cuesta de Acultzingo, Veracruz, January 10 and 16, 1942; Nevada de Colima, Colima, January 20, 1943.

The mite is similar to the Australian species, *Stereotydeus occidentale* Womersley, but it differs in that the dorsal pattern of *S. mexicanus* is composed of minute tubercles, forming pentagons, while that of *S. occidentale* is made up of small uniform tubercles separated by their own diameter; the dorsal setae of *S. mexicanus* are longer; *S. mexicanus* is 453μ long and *S. occidentale* is 650μ long; and the palpal segments of the Mexican species are longer.

Stereotydeus lattimorei, n. sp.

FIG. 3

Female.—Skin pattern not reticulate but composed of tubercles forming longitudinal striations over dorsum of mite, and more or less transverse striations on venter. Palpus short,

[7] JACK, R. W. Agr. Journ. Cape of Good Hope 32: 615–620. 1908.
[8] TUCKER, R. W. E. Union South Africa Dept. Agr. Mem. 3: 23–36. 1925.
[9] NEWMAN, L. Western Australia Dept. Agr. Journ. 2: 469–475. 1925.
[10] NORRIS, K. Austral. Council. Sci. & Indus. Res. Pamphlet 84: 1–23. 1938.
[11] MCGREGOR, E. A. Ann. Ent. Soc. Amer. 9 (3): 284–288, pl. 13. 1916.

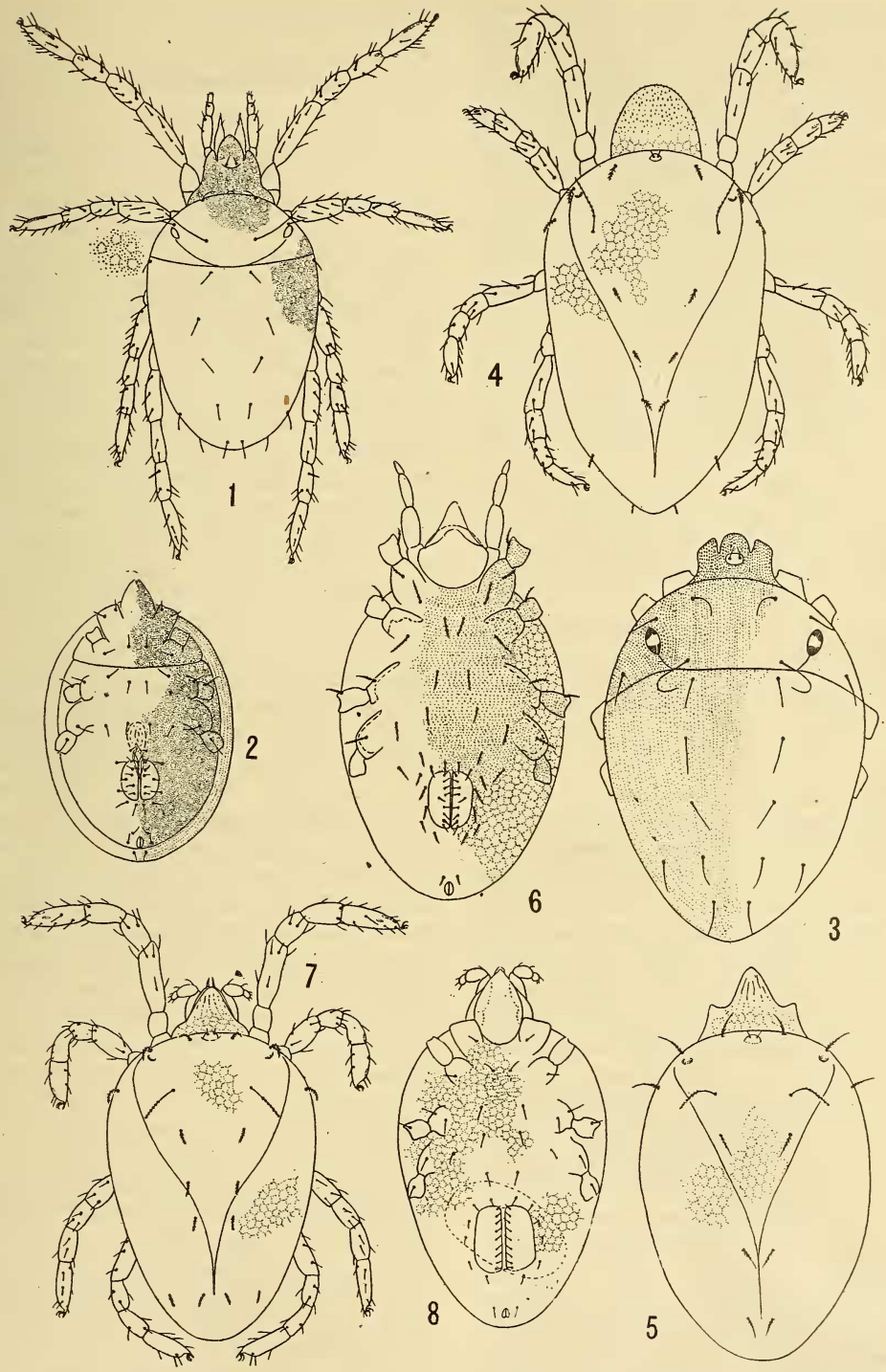

Fig. 1.—*Stereotydeus mexicanus*, n. sp. Dorsal view of body, male. Fig. 2.—Same, ventral view, male. Fig. 3.—*Stereotydeus lattimorei*, n. sp. Dorsal view of body, female. Fig. 4.—*Penthalodes oregonensis*, n. sp. Dorsal view of body, female. Fig. 5.—*Penthalodes boneti*, n. sp. Dorsal view of body, female. Fig. 6.—Same, ventral view, male. Fig. 7.—*Penthalodes turneri*, n. sp. Dorsal view of body, female. Fig. 8.—Same, ventral view, female.

strong; segment I, 20μ long; II, 83μ long, with two dorsal, pilose setae; III, 33μ long, with three pilose setae; IV, 27μ long, rounded, with several short terminal setae. Shield over rostrum trilobed, the center lobe rounded, with same pattern as body; median anterior tubercle with a pair of finely haired setae. A pair of pilose sensory setae not much longer than the pilose body setae, which are about 60–70μ long. A pair of large eyes on propodosoma. Genital setae arranged as in *S. mexicanus* with one pair laterad from the others; possibly six pairs of genital setae although only five pairs seen. Leg setae short, pilose; tarsus I with the usual three sensory organs. Body slightly pointed to rear. Length of body 1,000μ, including rostral shield 1,142μ; width about 700μ.

The type female, U.S.N.M. no. 1698, was collected "with orchid roots," from the Canal Zone, at Brownsville, Tex., February 8, 1946, by R. B. Lattimore, for whom the mite is named.

The large size and lack of reticulaticns distinguish this species from others in the genus.

Penthalodes oregonensis, n. sp.

FIG. 4

Female.—Dorsum of body with V-shaped indentation, skin pattern of tubercles forming connecting hexagons, covering dorsum and entire venter of mite. Palpus of moderate length and thickness; segment I, 20μ long; II, 40μ long with two short, semiplumose setae; III, about 23μ long with three short, semiplumose setae; IV, 10μ long with apparently 6 short terminal setae, 2 of which appear simple and the others pilose. No reticulate pattern on shield over rostrum, but posteriorly a few tubercles and anteriorly with fine hairs; shield broadly rounded, entirely covering rostrum. Anterior median tubercle on propodosoma with a pair of simple setae. Propodosomatic sensory setae of medium length, pilose; other dorsal body setae pilose, shorter. Possible eye lens present on anterior lateral portions of propodosoma. Nine pairs of pilose genital setae, the middle one laterad of the others. Tarsus I with three rodlike sensory organs, the posterior one placed laterad of the other two, which are in line. Body pointed posteriorly. Length of body 327μ; including rostrum 380μ; width 200μ.

The type, U.S.N.M. no. 1699, and a single paratype were taken from fir duff, Corvallis, Oreg., October 28, 1939, collector unknown.

The rounded shield over the rostrum is distinctive of this species.

Penthalodes boneti, n. sp.

FIGS. 5, 6

Female.—Dark brown with lighter dorsoposterior and ventral spots; legs light red. Body rounded, V-shaped indentation present; the reticulate pattern, which is composed of tubercles, covers the entire dorsum, and laterally and ventrally the reticulations reach the coxae and the genital plates, but between the area formed by the coxae and genital plates the pattern is no longer reticulate, but entirely tuberculate. Palpi long, slender; segment I, 20μ long; II, 67μ long, with a long pilose median seta and a similar distal seta; III, 63μ long, with a posterior seta of medium length and two similar distal setae; IV, 27μ long, with a basal rodlike sensory organ and at least five terminal setae, one of which appears to be simple, the others pilose. Shield over rostrum small, triangular, with shoulders, the shield reticulate posteriorly and striate anteriorly. Anterior median propodosomatic tubercle with two short, simple setae. Propodosomatic sensory setae pilose on distal portion; dorsal setae pilose. A pair of lenslike eyes present. Nine pairs of genital setae, the middle seta laterad of the others, which are near the inner margin of the genital plate. Tarsus I with 3 rodlike sensory setae, the posterior one laterad of the other two, which are in line; tarsus II with three rodlike sensory setae, all in line. Length of body 433μ; including rostral shield 513μ; width about 333μ.

Male.—Similar but slightly more elongated.

The type female, U.S.N.M. no. 1700, was collected in moss, Desierto de los Leones, Mexico, December 5, 1943, by E. W. Baker, and two paratypes, to be deposited in the collection of F. Bonet, Mexico, D. F., were collected from moss, Cumbre de Acultzingo, Veracruz, Mexico, January 16, 1942, by F. Bonet. Other Mexican collections are as follows: In bark, Atoyac, Veracruz, November 13, 1941, by F. Bonet; in moss, Desierto de los Leones, Mexico, July 14, 1941, by F. Bonet; in moss, Cuernavaca, Morelos, August 26, 1939, by F. Bonet; in rotten wood, Cuautla, Morelos, July 8, 1941, by F. Bonet; in moss, Desierto de los Leones, Mexico, February 7, 1943, by E. W. Baker.

The lack of ventral reticulation and the type of dorsal setae are distinctive of this species.

The reticulate pattern is similar to that of *Penthalodes ovatus* (Koch), but *P. boneti* possesses dorsal and posterior setae whose lateral branches are short, whereas in *P. ovatus* the branches are fewer and may be as long as the main stem.

Penthalodes turneri, n. sp.

Figs. 7, 8

Female.—Dorsum of body with V-shaped indentation; skin pattern of connecting hexagons over entire dorsum and entire venter. Palpi long, slender; segment I, 20μ long; II, 40μ long, with a median and a distal nearly semiplumose setae; III, 40μ long, with a basal and two distal semiplumose setae; IV, 20μ long, with apparently six short pilose setae. Shield over rostrum small, triangular, reticulate posteriorly and striate anteriorly. Anterior median tubercle of propodosoma with two short simple setae. Dorsal body setae almost semiplumose, with three to five lateral branches; anterior dorsal setae 6-rayed; propodosomatic sensory setae pilose on distal half. Genital setae as in other species. Tarsi I and II as in other species. Length of body 286μ; including rostral shield 333μ; width about 214μ.

The type female, U.S.N.M. no. 1701, a paratype and 4 other specimens were collected in peach-orchard soil, Stoddard County, Mo., September 25, 1936, by W. F. Turner. Other specimens were collected as follows: In soil, Tyler, Tex., November 23 and 24, 1939, and February 23, 1938 by L. D. Christenson; in soil, Denison, Tex., February 19, 1938, by L. D. Christenson; in soil, Menard, Tex., November 4, 1943, by O. A. Babcock; in rubbish in cottonfields, Batesburg, S. C., February 19, 1910, by H. F. Wilson.

This species is distinctive in that the reticulate pattern covers the dorsum and entire venter, and in the different type of dorsal body setae.

ENTOMOLOGY.—*Synopsis of the genus* Nealyda *Dietz, with descriptions of new species (Gelechiidae: Lepidoptera).*[1]

J. F. Gates Clarke, U. S. Bureau of Entomology and Plant Quarantine. (Communicated by C. F. W. Muesebeck.)

The monobasic genus *Nealyda* was erected by Dietz[2] for *Nealyda bifidella* Dietz. Under the genus *Didactylota* Walsingham[3] described the West Indian *bicolor*. Busck[4] stated that this species was certainly referable to *Nealyda*, but the generic transfer was not made until 1925 by Meyrick.[5] In 1900 Busck[6] added two more species, *N. pisoniae* and *N. kinzelella*. Later Meyrick[7] described *N. accincta* and *N. leucozostra* and in this paper two new species, *neopisoniae* and *phytolaccae*, are added, bringing to a total of eight the number of described species in the genus.

With the exception of *bifidella*, which ranges as far west and north as Washington State, the species are tropical or subtropical.

All the larvae so far known are leaf miners forming a blotch mine. Pupation occurs either inside or outside the mine, but the pupa always is in a flat, whitish or tinted cocoon from which it does not protrude at the time of emergence of the adult.

Key to the Species of Nealyda

1. Labial palpus conspicuously annulated.....2
   Labial palpus not so marked.....6
2. Head light colored.....3
   Head dark colored.....5
3. Dark fascia before middle of forewing dark brown to black.....4
   Dark fascia before middle deep velvety brown .....*kinzelella* Busck
4. Tuft of scales on dorsum contrastingly darker than dark fascia.....*pisoniae* Busck
   Tuft of scales on dorsum not darker than fascia .....*phytolaccae*, n. sp.
5. Median light fascia of forewing with blotch of dark color in center.....
   .....*neopisoniae*, n. sp.
   Median light fascia without such blotch of dark color.....*bifidella* Dietz

[1] Received November 7, 1946.

[2] Dietz, W. G., Ent. News **11**: 350. 1900.

[3] Walsingham, Lord, Thomas de Gray, Proc. Zool. Soc. London, 1891: 522.

[4] Busck, A., Proc. U. S. Nat. Mus. **25**: 835. 1903.

[5] Meyrick, E., *in* Wytsman, *Genera insectorum*, fasc. **184**: 24. 1925.

[6] Busck, A., Proc. U. S. Nat. Mus. **23**: 229, 230. 1900.

[7] Meyrick, E., *Exotic Microlepidoptera* **3**: 5. 1923.